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amples of reversion to remote ancestral characters rather than as results of recent hybridization."—J. M. C.

**Comparative leaf anatomy of *Agave*.**—In a genus consisting of species so incompletely characterized and so hard to differentiate as those of the succulents usually are, every applicable character is valuable and its application is a real service to science. Little beyond the most general and scattered facts have heretofore been recorded for the histology of *Agave*, and a recently published study of its leaf anatomy, by MÜLLER,<sup>13</sup> therefore, stands alone on the shelves. The difficulty of such a study and the value of its outcome are as largely influenced by the accuracy of naming and the representative character of the material on which it is based as on fulness of representation. In the present case the large collections of Palermo and La Mortola, where many of the species are planted out in the open, furnished material which is as likely to have been normal and accurately named as could be hoped for in the genus *Agave*, and its examination seems to have been carefully and systematically made. The details of structure, which are rather fully illustrated by means of drawings and low-power photographs, are followed by an analytical key occupying five quarto pages, and yet it is doubtful whether tenable names are likely to be found for many plants by its aid.—W. TRELEASE.

**Death by low temperature.**—Using the molds, *Aspergillus*, *Penicillium*, and *Botrytis*, BARTETZKO has made a new investigation under the guidance of PFEFFER, on death by cold.<sup>14</sup> He finds these fungi able to bear temperatures in a sub-cooled solution (without actual freezing) which would be fatal in the same time were the solution allowed to freeze. But even in the sub-cooled solution death ensues on longer exposure. With increase in the osmotic pressure of the plant sap there is a lowering of the death point, but there is no simple relation between the two. Isotonic solutions of different sorts have nearly the same effect on the resistance of the plant to cold. Only with *Aspergillus niger* did the use of a potassium nitrate solution reduce the resistance notably. In contrast to the conclusion of MOLISCH, BARTETZKO thinks death by cold cannot be due merely to withdrawal of water, because in certain cases this will be borne, while in others death takes place above the temperature at which any considerable loss of water occurs.—C. R. B.

**Root excretions.**—Inasmuch as the minuteness of the quantity of root excretions has again and again prevented the determination of the kind of acid, other than  $H_2CO_3$ , whose presence the corrosion experiments have led observers to

<sup>13</sup> MÜLLER, CARL, Beiträge zur vergleichenden Anatomie der Blätter der Gattung *Agave* und ihrer Verwertung für die Unterscheidung der Arten. *Bot. Zeit.* **67**:93-139. *pls. 4, 5. figs. 22.* 1909.

<sup>14</sup> BARTETZKO, HUGO, Untersuchungen über das Erfrieren von Schimmelpilzen. *Jahrb. Wiss. Bot.* **47**:57-98. 1909.